INTERNATIONAL COMPETITIVENESS THROUGH HUMAN CAPITAL DEVELOPMENT AND INNOVATION: A STUDY ON INDIAN TEXTILE INDUSTRY

Synopsis

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SECTION 1

INTRODUCTION

1.1 Introduction

Globalization has been feted as one of the pivotal fundamentals pushing the world towards the present age, portrayed by very frequent changes and amplified challenges in varied fields. As respective economies get more closely integrated with the universal economy and trade fences get acutely dismantled, the world economic geography itself has endured a vast range of variation. The emergence of evolving nations as significant trade and investment destinations, the technological advancements marked in legion of the evolved markets routing to major mechanization of manufacturing operations, the growing leverage of consumer and environmental lobbies in foreign trade negotiations, and the tremendous boost in competitive strain on business houses are reflections of a modified age (Shivali, S., 2010).

Apart from its strike on the economies of respective nations, the personal effects of globalization on the functioning and dry runs of business houses are nothing less expressive and far- reaching. There is an unsaid need for the industries, more than ever, to briskly and efficiently accommodate to the competitive and vital business atmosphere of the present-day time and get to address and cultivate in an outward- looking, clear, and globally co-opted economy, where conceivably, just the fitting may be competent to ride (Palmisano, S. J., 2006).

1.2 International Competitiveness

Managing global competition in the new era is the core issue, especially for the developing economies like India (Madgavkar, A., 2019). In attempting to make an unmistakable corporate/country advantage, which would be the way to survive in the global competition at the macro level explained through Diamond Model in Figure 1 (Porter, 1990), the nation needs to face and focus on host of issues including technology, imagination, and innovation, product/market procedures, HR development and broadening esteem base, to list out a few.

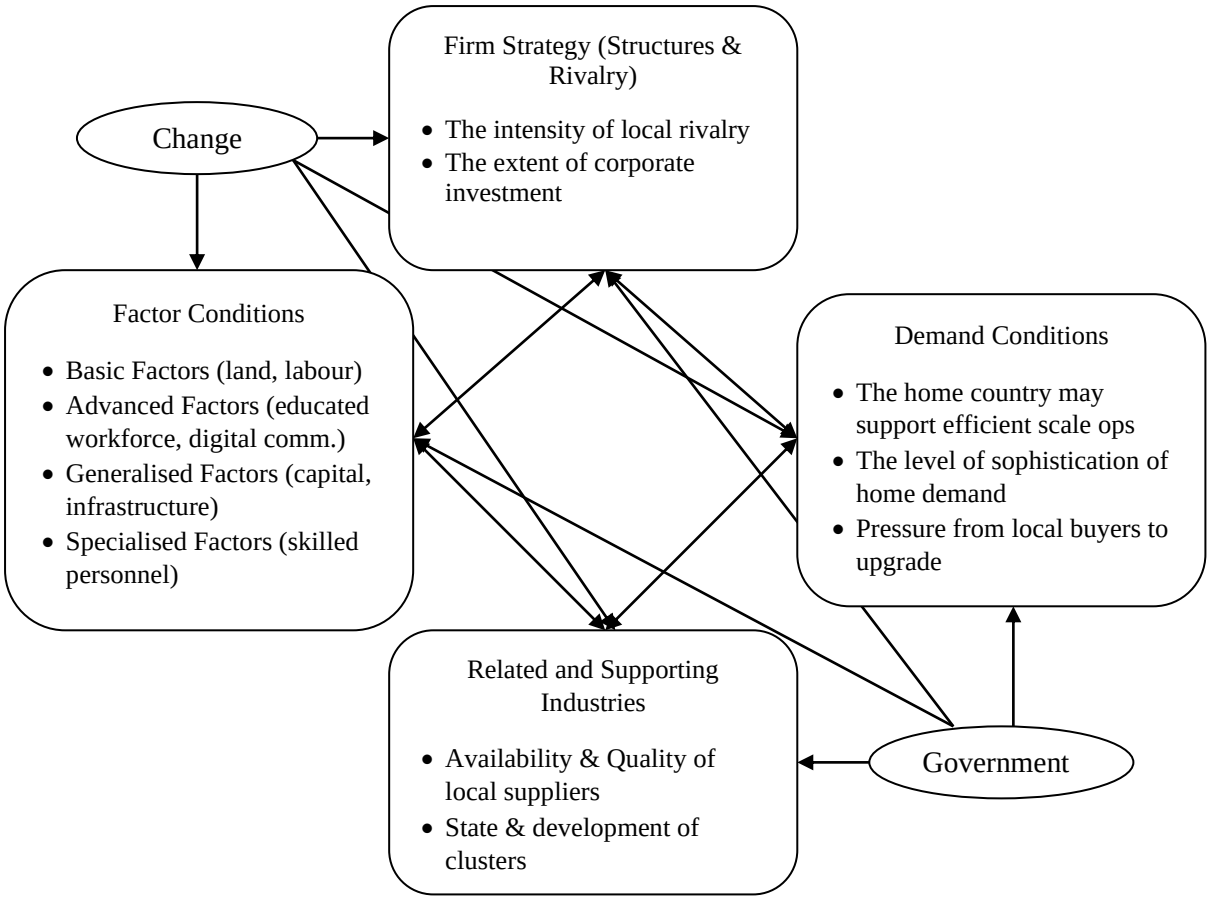
Firm Strategy (Structures & Rivalry)
The intensity of local rivalry
The extent of corporate investment
Change
Factor Conditions
Basic Factors (land, labour)
Advanced Factors (educated workforce, digital comm.)
Generalised Factors (capital, infrastructure)
Specialised Factors (skilled personnel)
Demand Conditions
The home country may support efficient scale ops
The level of sophistication of home demand
Pressure from local buyers to upgrade
Related and Supporting Industries
Availability & Quality of local suppliers
State & development of clusters
Government

Figure 1: Michael Porter's Diamond Model of Competitive advantage
Source: Porter (1990)

Global competitiveness is the capacity of the economy to accomplish maintainable development in a globally competitive environment (WEF definition of Global Competitiveness). As per the Global Competitiveness report 2010-2020, India was positioned poor, far beneath significant Developing economies in infrastructure, policies, and ethics among different parameters. However, we were somewhat better in innovation assimilation, scoring above China yet we actually were far underneath Brazil, Malaysia, Singapore, and the U.S. In 2010, India positioned 51, and with the most recent competitiveness reports, there appears to be no beam of trust with the positioning of 56th on development competitiveness in 2011 and 59th position in 2012 and in 2013 it is 60, in 2019, it is 68 (Global Competitiveness Reports, WEF (2010-2019)). It truly becomes basic to examine, with global context and India's true potential, do Indian organizations have the skill to contend in this steadily changing competitive environment.

Though the size of foreign trade and its value both have increased during the post-independence period, this increment in foreign trade can't be articulated satisfactory because India's slice in entire

foreign trade of the world has stayed remarkably low. In order to meliorate India's portion in world trade, India has stretched to multiply its trade connections with all the zones of the world. In vista of the prevalent surge of worldwide globalization, India has taken substantial action to diversify its exports as also its destinations.

The trade policy and reforms over the closing decade have delivered an export-friendly atmosphere with simplified processes, facilitative to amplifying the export competitiveness of the Indian export sector around the globe (Kumar, U., 2017). The locus of this reform has been on liberalization, openness, clearness, and globalization with an essential thrust on exterior exposure, concentrating on export elevation conditioning and enriching the competitiveness of the Indian industry to meet universal demands. Over the times meaningful changes in the EXIM policy have aided a bit to fortify the export production base (Vinod, M., 2013), but it is quite a lengthy drive to go along for the Indian export sector to command ample capability, which has not been capitalized yet up to the brim.

1.2.1 Human Capital

Though research work has been done on human capital, an unanimity is yet to be achieved on the definition of human capital (Wright, Coff & Moliterno, 2014). Various authors have given definition of human capital in different ways to satisfy the need and focus of their research. From an independent viewpoint Coff and Kryscyncki (2011) defined human capital as: "*An individual's stock of knowledge, skills, and abilities*" where Ployhart, Nyberg, Reilly and Maltarich (2014) have agreed with the above definition, but they also added "other characteristics" defined by traits that do not fall under the categories mentioned before such as personality, qualifications, values, certifications etc. to the literature of knowledge, skills, and abilities as elements of human capital i.e., KSAO. In their words: "*Human capital is an individual's KSAOs that are relevant for achieving economic outcomes"*. The authors have always identified human capital as inherent to the individual and does not relate to the physicality of the person. In this context the emphasis is on the specific elements (Wright et al., 2014), i.e., the knowledge, the skills, the abilities and the other characteristics (KSAOs), which are carried by the individuals to their workplace as employees (Davenport, 1999). The advocacy of various authors says that the KSAOs are acquired through education prior to employment and further mastered in workplace (Scarbrough et al., 2004; Wright et al., 2014).

Knowledge provides the factual information that is required to for performing a job responsibly (Polyhart et al., 2014) and lays the foundation on which skills and abilities can be nurtured (Nyberg et al., 2014). Many works suggest that human capital is also conceived as a firm level resource, but it is developed from the individual human capital (Ployhart & Moliterno, 2011).

Many theories suggest that two major approaches to human capital development are education and on-the-job training (theoretical aspect of which is vocational training) (Debrah et al., 2018). Many studies have also supported that education and training are a useful investment to develop human capital (Budhwar et al., 2004).

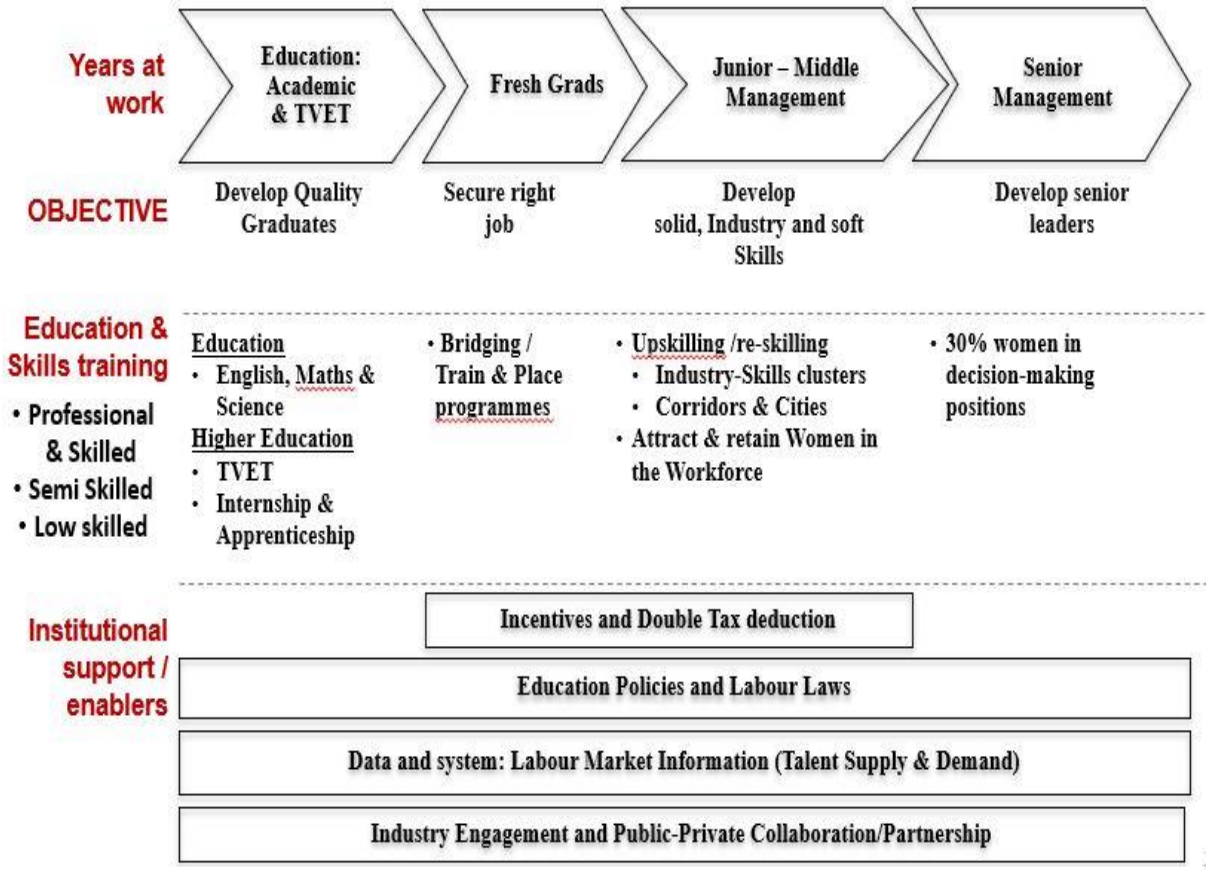
Years at work
Education: Academic & TVET
Fresh Grads
Junior – Middle Management
Senior Management
OBJECTIVE
Develop Quality Graduates
Secure right job
Develop solid, Industry and soft Skills
Develop senior leaders
Education & Skills training
• Professional & Skilled
• Semi Skilled
• Low skilled
Education
• English, Maths & Science
Higher Education
• TVET
• Internship & Apprenticeship
• Bridging / Train & Place programmes
• Upskilling /re-skilling
• Industry-Skills clusters
• Corridors & Cities
• Attract & retain Women in the Workforce
• 30% women in decision-making positions
Institutional support / enablers
Incentives and Double Tax deduction
Education Policies and Labour Laws
Data and system: Labour Market Information (Talent Supply & Demand)
Industry Engagement and Public-Private Collaboration/Partnership

Figure 2: Human Capital Development Model
Source: Tan Mei Ling (2010)

1.2.2 Innovation

Innovation is referred to as the utilization of new knowledge to create a new product and service offering which the consumers want (Afuah et al., 1998). Thus, this means that the organisation wanting to innovate need to apply the new ideas. Research work has been carried out via theoretical

frameworks seeking to describe the enterprising process of innovation adoption (Wisdom, J. P., et al., 2014). Innovation adoption happens in two phases: Initiation and Implementation, it has been illustrated in many ways one of it is shown below.

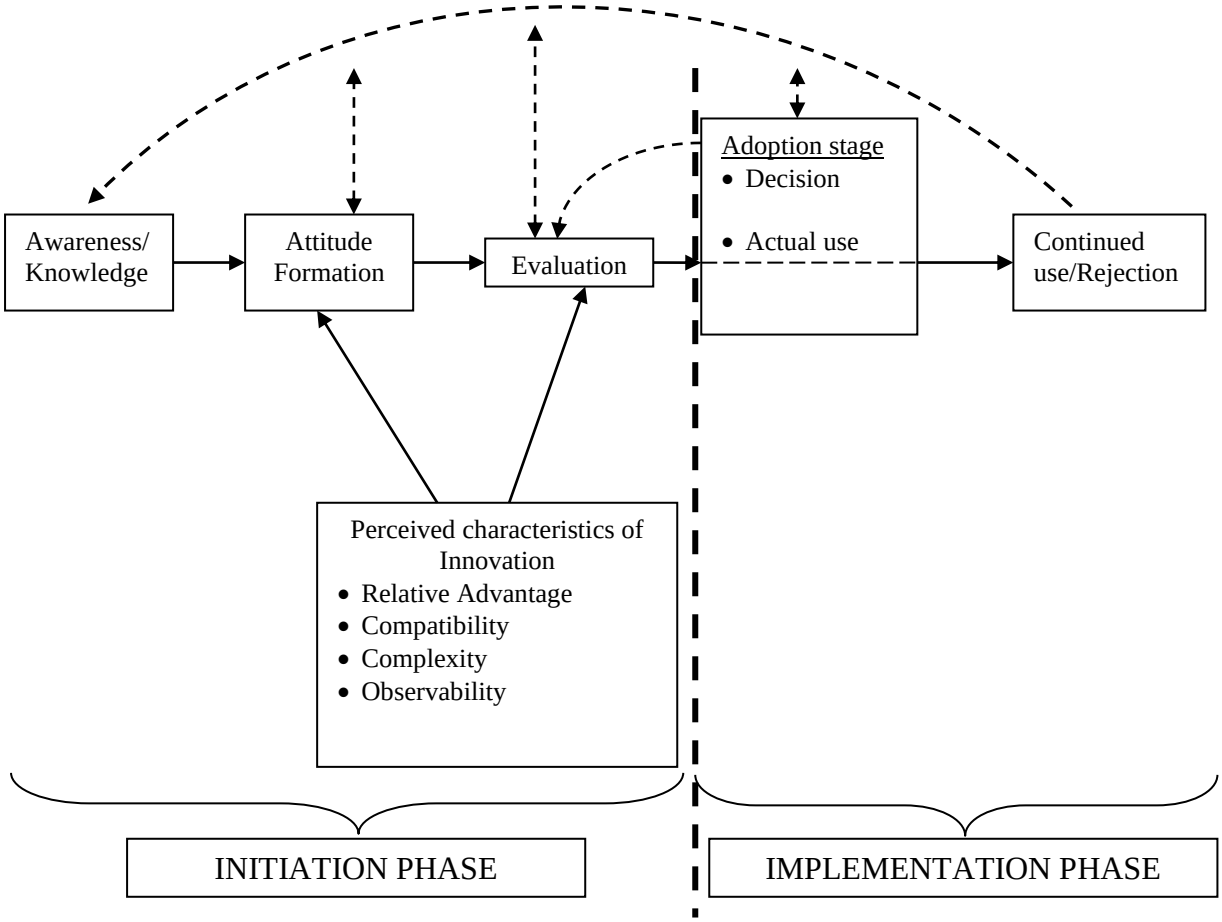

Figure 3: Stages of innovation adoption process
Source: Adapted from Gopalkrishnan & Damanpour (1997)

The adoption process can be facilitated by two major twigs of innovation i.e., technical innovation and administrative innovation, their exploration have been a tally by the researchers. Technical innovation focuses on process (acquired technical skills through training and availability of advanced technology) which amplifies the product and service delivery. The administrative innovation encompasses administrative processes, skill acquisition, organisational structure and human capital development (Ibarra, 1993; Damanpour, 1987; Almeida and Phene, 2004; Jaskyte, 2011).

These types of innovation have no similar attributes and have no relation with the same organisational factors equally (Damanpour, 1987; Jaskyte, 2011). Santos Vijande et al., (2012) have proved in their study that both the twigs i.e., technical innovation and administrative innovation, should complement

each other's efforts to optimize the organization's strategic outcomes. Further, this recognised relationship between administrative and technical innovation backs the coherent relationship between international competitiveness, innovation and human capital development (Santos Vijande et al., 2012).

1.3 Indian Textile Industry

The Indian textile industry possesses an important position in the hierarchy of the Indian manufacturing industry. It was assessed to contribute 7.7% to industrial output, 2% to GDP, and around 12% to India's product profit. Also, it gives direct employment to more than 45 million individuals (IBEF & Ministry of Textiles, Government of India, 2021). Its immediate linkages with the domestic economy are; being subject to fibre crops, and are likewise firmly connected with different specialties, for example, those utilizing cotton, wood, and silk and handlooms employing a great many farmers and craftsmen in rural and semi-metropolitan regions.

The industry is notably important for Indian economy due to its contribution towards the most important aspect of today's youth; employment, and GDP. Being the second largest producer of cellulose fibre and cotton, largest producer of jute, second and fourth largest producer of silk and synthetic fibre respectively, India has a prominent position on the Global Textile map (Nayyar, M., et al., 2020).

India is one of the few nations that has a strong hold across the entire value chain of the textiles and apparel business starting from fibre produce, spinning, weaving/ knitting, processing to garment manufacturing (IBEF & Ministry of Textiles, Government of India, 2021). The Indian textile industry with all its advantages has held on with bated pause for the post quota regimen to come into effect from January 1, 2005. The abolishment of quotas opened up an abundance of opportunities for the Indian textile industry, which is positively positioned to leverage its relative edges and amplify its market piece in the post share governance (Abraham, V., & Sasikumar, S. K., 2011).

The image doesn't appear exorbitantly gloomy, as various Export sectors truly vow a great tomorrow for the Indian Economy to make its mark on the Global front. The need of the hour is to concentrate on the core competences and hidden capability, that can be further furbished in the light of policy and

procedural support network, Govt, enterprise, and developing expertise obligatory to fight and sustain universally.

The global Competitive advantage especially in Indian Industry can be capitalized, feeding an authentic insight into origins of advantage that can be whetted. The existence of relative advantage is an instant determinant of global competitor. A Nation having a significant advantage in factor costs or the factor volume of raw material will discover itself in a possible situation to take part in global competition (Porter, 1990). Therefore, in order to assimilate a global outlook, conducting periodic reviews of core competences, is imperative along with the focus on the relative advantage foothold, and fortifying the infrastructural support frame is an absolute requisite.

India is still described as an underdeveloped economy (Seema Goyal, 2015) both in terms of size and complexity, famished telecom and power infrastructure, a tropical status of inter-company competition, a dearth of any genuine institutional support, and the lack of an industry cluster.

The end outcome is that our economy is an economy with faint fundamentals but with huge potential. Catching on this potential, globalization has to be taken as an ace shot to exhibit to the rest of the world Indians' real worth and capabilities. It is consequently with an amalgamated path, with a multi-dimensional frame, India will shine on the globe again.

The Indian textile industry is well mindful of the challenges and opportunities that the phasing out of MFA regime will toss up. The textile industry in India, though positively positioned with its diversified product foothold, ample accessibility of domestic raw materials, a well - developed mesh of R&D establishments, and a promoting pool of skilful hands, would have to capitalize its place of potence by concentrating on developing coherent class products for niche demands, assuring prompt delivery of consignments and competitive pricing of produces if it has to face off successfully and gather from the quota free exports to the progressive world (Shivali, S., 2010).

India has also clusters listed in the industry, the focus of clustering was to reduce cost and working in cooperation, which is an important aspect of International Competitiveness (Momaya K. S., 2015). Various clusters of India are listed below:

Table 1: List of Major Textile Clusters

Product	Location
Terry Towel	Solapur, Maharastra
Cotton Fabrics	Salem, Tamil Nadu
Textile Fabrics	Erode, Tamil Nadu
Knitwear	Tirupur, Tamil Nadu
Home Furnishing	Kannur, Kerela
Cotton Yarn	Madurai, Tamil Nadu
Textile & Clothing	Ahmedabad, Gujrat
Hosiery	Kolkata, West Bengal
Polyester Fabrics	Surat, Gujrat
Grey Fabrics	Ichalkaranji, Maharastra
Ikkat Fabrics	Bhubaneshwar, Orissa, (Traditional Textiles)
Chanderi Silk	Chanderi, MP, (Traditional Textiles)
Knitwear	Ludhiana, Punjab
Home Furnishing	Panipat, Haryana
Jeans	Bellary, Karnataka
Sanganer print	Jaipur, Rajasthan, (Traditional Textiles)
Raw Cotton	Ahmedabad, Gujrat

Source: Ministry of Textiles, Govt. of India

SECTION 2

REVIEW OF LITERATURE

2.1 Literature Map

This research work is concentrated on the importance of International Competitiveness for a country's performance which is achieved by International Competitiveness of the industry. A significant amount

of research also shows connection of innovation with the International Competitiveness of an industry as it gives a competitive edge in the international market.

Moreover, human capital development as the role of institutes has also attracted research attention in relation to International Competitiveness because it is advocated that more educated and skilled workforce is more productive as the workforce is more likely to innovate or adapt to newer technologies or innovative processes (Mulliqi, A. 2016).

Keeping the aforementioned points in mind the figure below is an outline of the broad areas which were covered in review of literature.

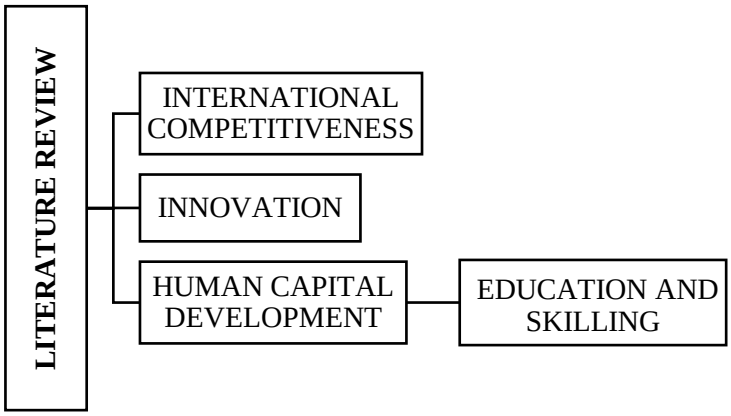

Figure 4: Review Framework
Source: Researcher's Construct

2.2 Summary of Literature Review

Table 2: Synthesized Matrix of Literature Review

				Area of Study			Methodology			Context	
S.No.	Title	Author(s) & Year	Category	Competitiveness	Innovation	Human Capital Development	Descriptive	Empirical	Exploratory	Indian	International
1	Competitiveness Analysis of Textile Industry of Turkey: Revealed Comparative Advantage Approach	Hasan Halife (2022)	PAPER	√	√		√				√

2	Vision Of Pradhan Mantri Kaushal Vikash Yojana And Its Impact On Socio Economic Development Of India	Rakshit, S., & Pathak, S. N. (2021)	PAPER		√	√			√	√	
3	Institutions, institutional quality, and international competitiveness: Review and examination of future research direction	Ricardo E. Buitrago R., María Inés Barbosa Camargo, (2021)	PAPER	√		√	√				√
4	Return from COVID-19: Thinking Diferently About Export Competitiveness and Sustainability	Kirankumar S. Momaya (2020)	ARTICLE	√	√		√			√	
5	Industrial dynamics in the context of a region's international competitiveness	Varum, C., Guimarães, C., Oliveira, J. M., & Martins, A. (2020)	PAPER	√				√			√
6	Technical Textiles: The Future of Textiles	Ankita Sharma, Remya Lakshmanan & Mishika Nayyar (2020)	ARTICLE	√				√		√	
7	A research on the impact of indigenous innovation on international competitiveness of China's manufacturing industry	He Yubing, Han Qiumin, Zeng Yi (2019)	PAPER	√	√			√			√
8	The Past and the Future of Competitiveness Research: A Review in an Emerging Context of Innovation and EMNEs,	Kirankumar S. Momaya (2019)	PAPER	√	√		√			√	

9	Vocational training in India: determinants of participation and effect on wages	Kumar, R., Mandava, S. & Gopanapalli, V.S. (2019)	PAPER		√	√	√			√	
10	Human capital, innovation and international competitiveness in Sub-Saharan Africa	Debrah, Y. A., Oseghale, R. O., & Adams, K. (2018)	PAPER	√	√	√		√			√
11	Empirical Research on Comparison of International Competitiveness between China and India Manufacturing Industries,	Meijuan Li & Yumei Zhang (2018)	PAPER	√				√		√	√
12	Determinants Of Growth and International Competitiveness of Small Enterprises	Brojakowska-Trząska, M. (2018)	PAPER	√	√		√				√
13	Trade Policy of India Since 1991: A Critical Evaluation and Comparative Study Between Pre and Post Reform Periods	Kumar, U. T. T. A. M. (2017)	PAPER	√			√			√	
14	Can Flexibility in Corporate Governance Enhance International Competitiveness? Evidence from Knowledge-Based Industries in India	Haldar, A., Rao, S. V. D., & Momaya, K. S. (2016)	PAPER	√		√		√		√	
15	The Impact of Human Capital Endowments on International Competitiveness, with Special Reference to Transition Economies	Mulliqi, A. (2016)	THESIS	√		√	√				√

16	Is the Global Competitiveness Index informative?	Workie, M., & Hekelová, E. (2016)	PAPER	√				√			√
17	Export Competitiveness of Select Firms from India: Glimpse of Trends and Implications	Manthri, P., Bhokray, K., & Momaya, K. (2015)	PAPER	√			√			√	
18	Strategic human capital: Crossing the great divide	Wright, P. M., Coff, R., & Moliterno, T. P. (2014)	PAPER			√		√			√
19	Identifying and prioritizing industry-level competitiveness factors: evidence from pharmaceutical market	Hosein S., Gholamhossein M., Arash R., Ahmad B. & Hamid R. R. (2014)	PAPER	√				√			√
20	Human capital is dead; long live human capital resources!.	Ployhart, Nyberg, Reilly and Maltarich (2014)	PAPER			√		√			√
21	International Competitiveness through Innovation and Entrepreneurship	Barkas, P. (2013)	PAPER	√				√			√
22	Export performance and competitiveness of Indian textile industry	Singh, M. P., & Lal, M. (2013)	PAPER	√			√			√	

23	IMPACT OF VERIOUS EXIM POLICIES ON INDIAN ECONOMY	Vinod, M. (2013)	PAPER	√				√		√	
24	Organizational learning, innovation, and performance in KIBS	Santos-Vijande, M. L., López-Sánchez, J. Á., & González-Mieres, C. (2012)	PAPER		√	√		√			√
25	The Relationship between Knowledge Transfer and Competitiveness in "SMES" with Emphasis on Absorptive Capacity and Combinative Capabilities	Zonooz, B. H., Farzam, V., Satarifar, M., & Bakhshi, L. (2011)	PAPER	√	√			√			√
26	Emergence of the human capital resource: A multilevel model	Ployhart, R. E., & Moliterno, T. P. (2011)	PAPER			√		√			√
27	Predictors of administrative and technological innovations in nonprofit organizations	Jaskyte, K. (2011)	PAPER		√		√				√
28	An Integrated Framework for Export Competitiveness: Evidence from the Global Alcoholic Beverages Industry	Alon, I., Fetscherin, M., & Johnson, J. P. (2011)	PAPER	√			√				√
29	Labour Cost and Export Behaviour of Firms in Indian Textile and Clothing Industry	Abraham, V., & Sasikumar, S. K. (2011)	PAPER			√		√		√	

30	Corporate Social Responsibility and Competitiveness in the Restaurant Industry in Guadalajara	Sanchez-Gutierrez, J., Gutierrez-Govea, A., Gaytan-Cortes, J., & Garcia Jimenez, E. (2011)	PAPER	√			√				√
31	Competitiveness of Lithuanian textile and clothing industry	Jucevičius, R., & Rybakovas, E. (2010)	PAPER	√			√				√
32	Transforming inherent core competence of Indian textile industry into global competitiveness	Shivali, S. (2010)	THESIS	√	√		√			√	
33	The role of ICT knowledge flows for international market share dynamics	Laursen, K., & Meliciani, V. (2010)	PAPER	√		√	√				√
34	Differences in PRC and Indian Textile and Apparel Industry Response to the Elimination of the MFA: Do Cultural Differences Matter?	Joseph Pelzman, & Amir Shoham (2010)	PAPER	√			√			√	√
35	The Challenge of Technical and Vocational Training and Education in Rural Areas: the Case of South-Asia	Vollmann, W. (2010)	PAPER		√	√		√			√
36	Expanding Horizons in Higher and Technical Education to Adopt New Visions of New World: A Challenge	Naik, B. M., Kandlikar, W. S., & Shirkhedkar, M. P. (2009)	ARTICLE		√	√			√	√	

37	The Global Economic Crisis, Growth and Employment: The Case of the Indian Textile and Apparel Industry	Singh, S. R., & Goel, S. (2009)	PAPER	√		√		√		√	
38	Economic competitiveness and human resource development: An FDI perspective	Afza, T., & Nazir, M. S. (2007)	PAPER	√		√	√				√
39	Dynamics of HRM systems in the Asian context and the research agenda	Budhwar, P. S., & Debrah, Y. (2004)	PAPER	√		√		√			√

Source: Researcher's Construct

2.3 Research Gap

According to Porter (1990), International Competitiveness of a country is essentially the competitiveness of the Industries and Firms in the country dealing with international competition. The WEF since 1979 defines competitiveness as "*the set of institutions, policies and factors that determine the level of productivity of a country. The level of productivity in turn determines the level of prosperity that can be achieved by an economy.*" Whereas, the Institute for International Management Development (IMD) since 1989 defines competitiveness as *"the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people."* Both the institutions have been pioneers in publishing Competitiveness Rankings at the global level and have over lapping grounds of International Competitiveness like productivity, growth of GDP, labour efficiency, education, etc.

A huge amount of literature is present on International Competitiveness of India and various industries. Indian Textile Industry as the sub sector has had limited attention as compared to its major sector that is manufacturing, and to mention others IT, automobiles, etc. Indian textile industry has presence all over the value chain i.e., right from the production of raw material to production of

finished goods. The close proximity of the industry to agriculture (for raw material like cotton) and the traditional culture & heritage in terms of textiles makes it one-off in comparison to other industries in the country. It is important to give attention to the industry because of the importance of the industry mentioned in above sections.

The review of literature has revealed that innovation has a positive impact on the International Competitiveness (He Yubing et al., 2019; K. Momaya, 2019; Barkas, P., 2013). Literature review also pointed towards a point worth paying attention to that majority of the studies have researched the concept of international competitiveness at the macro level. The studies have obsessed with developing frameworks around indicators and indices with usefulness to ranking and comparison of trends across industries or countries. Papers probing the determinants of International Competitiveness have usually have used only a limited number of influencing factors. The micro level studies have more often assessed the importance of human capital development, rarely a reference was found to International Competitiveness.

Further, the relationship between technical innovation and administrative innovation has backed the relationship between innovation, human capital development and International Competitiveness (Santos Vijande et al., 2012) in the international context. A little evidence was found in literature review process on the relationship between human capital development (vocational training), innovation and International Competitiveness in Indian context. Thus, the study is focused on the theme of relationship between human capital development (vocational training), innovation and International Competitiveness in Indian context.

SECTION 3

NEED OF THE STUDY

Competitiveness of a nation relies on the capacity of the industry of that nation to innovate and upgrade (Porter, M., 1990). In the era of increasing global competition nations' importance has become more crucial. National values, culture, economic structuring, and histories all contribute to competitive success by becoming competitive advantage (Moon, H. C., 2000; Porter, M., 1990).

The Indian textile industry has always been a symbol of India's cultural heritage (Dixit, P., & Lal, R. C., 2019), also with the linkages to agriculture the Indian textile industry is very unique in comparison

to other countries. India has an advantage in terms of skilled manpower and cost of production, relatively to major producers worldwide (IBEF, 2022). The strengths of the Indian textile industry are its presence in the entire value chain, a solid base of raw material, indigenous design competence, growing domestic and external demand, and availability of skilled manpower at competitive price Internationally (Lal et al., 2013). A decade ago, the Indian textile industry was at par with the closest rival i.e., Bangladesh but has lagged in the past few years. The compound annual growth rate (CAGR) for the period 2015-2020 for the textile exports was -1.75%. After having strengths and advantages as well the industry had negative growth, which shows potential for improvement.

Importance of the industry can be gauged by the role played that of backbone in the economy by making huge contributions to both exports and employment. The industry contributes 7.7% to industrial output (in value terms) and 15% to export earnings (Ministry of Commerce and Industry, 2021). Textile industry of India directly employs over 45 million people and 0.6 million in allied sectors, including women and rural population (Agarwal, V., 2022).

The structure of the Indian textile industry portrays the best example of technological dualism. A highly contemporary and capital concerted organized sector, including composite mills and spinning mills in coexistence with a labour concerted and technologically backward unorganized sector comprising handlooms, knitting and powerlooms.

Businesses wanting to increase profits without the high risks or without lowering their prices should consider differentiation strategy. Same can be adopted by the Indian textile industry, and differentiation is achieved by constant innovation (*The Venture* by McKinsey, 2021).

Currently India is the 5th biggest exporter of textile and apparel covering a share of 4% in $840 billion market (Ministry of Textiles, 2021). China has 1/3rd of the share of world exports in textile and apparel market, there a lot of room for India to improve and grow. With countries wanting to diverse away from China for their imports in wake of many International Rights issues and the pandemic which rooted from China, the need to build a better recognition and position of Indian textile industry in the international market is imperative. To achieve the goal the industry will have to improve its Competitiveness in the international market by working on comparative advantages which are helpful in beating the competition and maintain its position and grow further in the future. The study here

aims to analyse the International Competitiveness through innovation and human capital development with focus on Indian textile industry and prolifically contribute to the base of literature covering the aspects which affect the competitiveness of the industry.

SECTION 4

RESEARCH OBJECTIVES & HYPOTHESE FORMULATION

4.1 Research Objectives

The following proposed objectives are derived from the review of literature:

Objective 1: To gain an insight into the existing scenario of International Competitiveness in Indian Textile Industry

To be Achieved by using empirical data collected through Review of Literature, relevant reports and relevant websites.

Objective 2: To analyse the relationship between human capital development and innovation in context of Indian Textile Industry

To be Achieved through analysis of primary data gathered from structured questionnaire with the help of relevant statistical tools.

Objective 3: To evaluate the impact of human capital development and innovation on International Competitiveness

To be Achieved through analysis of primary data gathered from structured questionnaire with the help of relevant statistical tools.

Objective 4: To develop and recommend an operational & managerial policy framework to enhance International Competitiveness of Indian Textile Industry

To be Achieved by using systems tools of analysis.

4.2 Hypotheses Formulation

The study will be carried out in order to test the following hypotheses. The hypotheses for the study are drawn on the bases of following facts and previous researches:

Developed Human Capital and Indigenous Innovation

Dahlman (2010) stated that China, India and Brazil are putting great efforts into indigenous innovation by Development of Human Capital through universities and that these three countries

along with USA and Russia stood as the top five countries in the world in terms of total number of university enrolments in 2007. He Yubing et al. (2019) and Surender Munjal & Sumit Kundu (2017) in their studies have found a relationship between Developed Human Capital and Indigenous Innovation through design, process and technology. Therefore, it is hypothesized that:

H1a: Developed Human Capital has positive influence on Indigenous Innovation

Developed Human Capital and Innovation Implementation

Study by Kotter et al. (2002) revealed that major cause of Innovation and change related failures tend to be people related issues during Implementation. Tseng et al. (2008) and Van der Wiele (2007) in their study found that Human Capital can be developed by way of formal training and education designed at modernizing and renewing one's potential because the adjustment of a Developed Human Capital's skill is more important in successful innovation implementation. Therefore, it is hypothesized that:

H1b: Developed Human Capital has positive influence on Innovation Implementation

Innovation Implementation through Infrastructure and Indigenous Innovation

Leonard-Barton and Deschamps (1988) in their study talked about successful innovation being a two-step process. First, the management should focus of motivating adopters for Indigenous Innovation. Second, the management should create and advertise an adequate infrastructure to support Innovation and its Implementation. Therefore, it is hypothesized that:

H1c: Infrastructure has positive influence on Indigenous Innovation

H1d: Infrastructure has positive influence Innovation Implementation

Organisational Environment dictating Indigenous Innovation and Innovation Implementation

The studies of Amabile (1988) and Todd Dewett et al. (2007) revealed that the internal Innovation is divided into two stages namely pre-adoption and post-adoption Indigenously. The former, pre-adoption stage, is characterised by the activities aimed at creation of ideas and products (i.e., support for Indigenous Innovation), the Organizational Environment scanning is necessary to identify and foster innovations and potential innovations. Therefore, it is hypothesized that:

H1e: Organisational Environment has positive influence on Indigenous Innovation

Further, Rogers (1987), Cool et al. (1997) and Todd Dewett et al. (2007) in their studies concluded that the post-adoption stage (i.e., Innovation Implementation), includes all the events required to move the Innovation from adoption decision to successful Implementation. Which may include creation of environment by the management for smooth and free corporate communications activities, employee training, or other change efforts. Therefore, it is hypothesized that:

H1f: Organisational Environment has positive influence on Innovation Implementation

Competitive Advantage

It is defined as a firm's ability to produce a good or service more efficiently than its competitors, which leads to greater profit margins, creates a competitive advantage.

Increased Productivity: J. Mosovsky et al. (2000) and EW Hill (2001) in their studies revealed that Competitive Advantage can be attained through Increased Productivity.

Improved Processes: RYY Hung (2006) and D. Nadarajah & SLSA Kadir (2014) in their studies found that Improved Processes play a role in achieving sustainable Competitive Advantage.

Unique Product: JI Dirisu et al. (2013) in their study found about the use of product differentiation (Unique Product) creation as tool of Competitive Advantage.

Unique Technology: SA Zahra et al. (1995) and L. Breznik (2012) in their studies have revealed that Unique preposition through Technology can be source and tool for transformation into Competitive Advantage.

Indigenous Innovation and Competitive Advantage

W. Lazonick & Y. Li (2012) in their study found that Indigenous Innovation was the prime source of Chinese industries' Competitive Advantage and K. Pawar et al. (2019) in their studies found that the SMEs can gain Competitive Advantages through Indigenous Innovation. Moreover, Paraskevi & Panagiotis (2014) in their research have stated that for any organisation to gain competitive advantage.

The organization has to keep learning different ways to initiate innovation by inspiration, knowledge and experience clubbed with expertise from within the organization. Where, Senge (1990) defined

learning organisation as “A learning organisation is a place where people are continually discovering how they create their reality”. Therefore, it is hypothesized that:

H2a: Indigenous Innovation has positive influence on Competitive Advantage

Innovation Implementation and Competitive Advantage

Drucker (1985) is his study pointed out that Entrepreneurs need to look intentionally for the sources of innovation, the progressions and their side effects that show potential open doors for successful innovation. What's more, they need to be aware and to apply the standards of successful innovation. Further, from the studies of Drucker (2003), Tidd et al. (2007), U. Hana (2013) and Deniz Dilara Dereli (2015) it can be concluded that innovative process is divided into two parts. One part is inventive – which means generation of the original idea, thought or concept. Second part is innovative in which the Innovation is Implemented and Competitive Advantage is achieved after which the product can be successfully marketed. Therefore, it is hypothesized that:

H2b: Innovation Implementation has positive influence on Competitive Advantage

Performance Review and Process Improvement

The studies of Iqbal & Suzianti (2020), Jackie Gnepp et al. (2020) and Budworth, MH. & Chummar, S. (2022) have shown that future focused feedback and appraisal in the form of Performance Review helps in identifying risks, strengths, opportunities, threats and weaknesses of a process. This leads to identification and implementation of Process Improvement ideas through guidance, motivation and rewarding of employees. Therefore, it is hypothesized that:

H3: Performance Review has positive influence on Process Improvement

Performance Review and Future Inputs

In research works of Holzer, M. (1991) and Ilgen, D. R. et al. (2005) it was found that Feedback in form of Performance Review is an important part of any value adding unit because as it affects the Future Inputs. Wynn, D. C., & Maier, A. M. (2022) in their studies have stated that Feedback is perceived when the Output or Performance of a Process later influences the Inputs. According to Momaya (1998) inputs can be perceived as Assets of an industry which include Human Capital,

Infrastructure and Organisational Environment at large (Das D. K., et al., 2018). Therefore, it is hypothesized that:

H4: Performance Review has positive influence on Future Inputs

SECTION 5

CONCEPTUAL FRAMEWORK

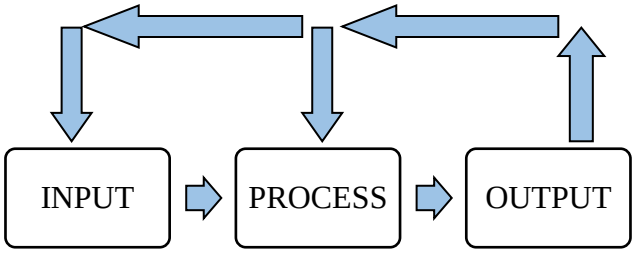

Figure 5: Value addition process of an Industry
Source: K. Momaya, 1998

The conceptual framework is the result of review of literature and it is embedded inside the Asset-Process-Performance (APP) framework (Momaya, K., 1998). Momaya in his study stated "*competitiveness of an industry depends on its ability to obtain inputs at competitive terms, effective value-added through efficient processes, and successful marketing of its output to downstream industries*". Detailed evaluation has shown that often outputs of a segment become inputs of other segment in the same industry.

For instance, outputs i.e., drawings & specifications generated by the architecture segment becomes input for the contracting segment.

This particular relationship is shown by the feedback loop on Figure 5. The basic of these three components can also be captured as competitive assets, competitive processes, and competitive performance (Momaya, K., 1998).

The figure (Figure 6) below depicts the conceptual framework of value adding unit of the Indian Textile Industry where the Developed Human Capital is part of the **Asset/Input** including Infrastructure and Environment, which facilitates the **Process** for Indigenous Innovation and Innovation Implementation which when efficiently carried out gives the **Output/Performance** as

Competitive Advantage which could be in the form of Unique Product, Unique Technology, Improved Process and Increased Productivity resulting to increased market share.

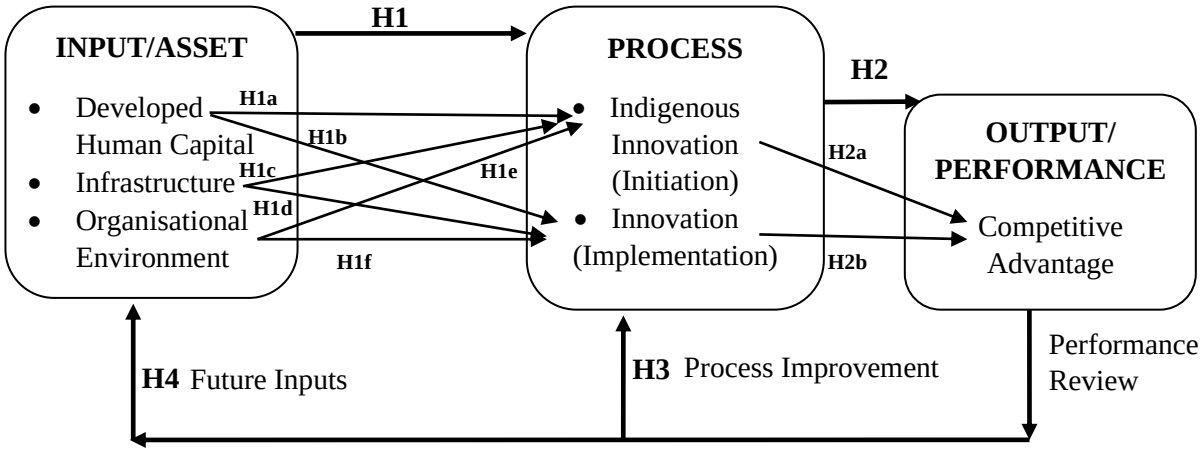

Figure 6: Conceptual Framework of Value addition process of Indian Textile Industry
Source: Researcher's Construct

SECTION 6

RESEARCH METHODOLOGY

6.1 Research Design

For the proposed research, Descriptive Research design by Saunders (2019) has been adopted with the intention to elaborate an accurate representation of persons, events or situations, and relies on surveys and online questionnaires.

6.2 Scope of the Study

The proposed research will comprise of few of the stakeholders involved in Indian Textile Industry and have an impact on the International Competitiveness. In the words of Oliver Sheldon "No industry can be rendered efficient so long as the basic fact remain unrecognized that it is principally human". Since, in previous sections it is clearly stated that Human Capital is developed through education and training. Thus, Employees who are related directly or indirectly to the industry will be targeted who can be present and scattered all over the country.

6.3 Sample Design

For the purpose of this study, Judgmental and Convenience sampling will be used to draw appropriate representative sample from the population. The population from which the sample needs to be taken is

unknown and appears to infinite in nature. Hence the approach is to find an optimal sample size using Bill Godden's formula:

$$\mathbf{S= Z^2 \times P \times (1-P) / M^2}$$

S = Sample size. Z = Given Z value.

P = Percentage of population. M = Margin of error

After values being considered at:

90% confidence level, margin of error as 5% and Population proportion assumed at 30%:

$S = (1.645)^2 \times 0.3 \times (1-0.3) / 0.05^2$

$S = 2.7060 \times 0.21 / 0.0025$

$S = 227.3061 \approx 227$

The sample size will be consisted of the various employees present and scattered all over the country basis the ease of approachability.

6.4 Sources of Data Collection

To determine the objectives of the proposed study, data will be collected from both primary as well as secondary sources.

- **Primary Data:** To fulfil the objectives and test hypotheses, primary data will be collected from Employees who are related to the industry directly or indirectly. A structured questionnaire will be prepared which will be exposed to a pilot test to check its reliability. Any amendments which are necessary would be incorporated in the final questionnaire before administering it to all the 227 respondents.
- **Secondary Data:** With respect to the dynamic nature of the research, secondary data will provide the information and facts related to study. Thus, secondary data, for the study will be collected from the following sources:
    - Magazines/Newspapers
    - Company/Industry reports
    - Websites (Company/Industry)
    - Books
    - Journals

6.5 Measurement Scales

Table 3: Measurement Scales of Variables and References

S.No.	Variable	Adaptation from Measurement Scale and Reference	Factors (No. of Items)
Input/Asset			
1	Human Capital	Chahal, H., & Bakshi, P. (2016). Measurement of intellectual capital in the Indian banking sector. Vikalpa, 41(1), 61-73.	Competence (3), Creativity (4), Managers' Attitude (3), Staff Attitude (3)
2	Infrastructure	1. Chahal, H., & Bakshi, P. (2016). Measurement of intellectual capital in the Indian banking sector. Vikalpa, 41(1), 61-73. 2. Chen, Y. S., James Lin, M. J., & Chang, C. H. (2006). The influence of intellectual capital on new product development performance–the manufacturing companies of Taiwan as an example. Total Quality Management and Business Excellence, 17(10), 1323-1339.	Process (4), Information Technology (3), Culture (3)
3	Organisational Environment	Easton, S., & Van Laar, D. (2018). User manual for the Work-Related Quality of Life (WRQoL) Scale: a measure of quality of working life. University of Portsmouth.	General Well Being (6), Job Career Satisfaction (6), Control at work (3), Working Conditions (3), Stress at Work (2), Overall Quality of Working Life (1)
Process			
4	Indigenous Innovation (Initiation)	Cropley, D. H., Kaufman, J. C., & Cropley, A. J. (2011). Measuring creativity for innovation management. Journal of technology management & innovation, 6(3), 13-30.	Novelty (2), Genesis (3), Elegance (3),
5	Innovation Implementation	Sung, S. Y., & Choi, J. N. (2014). The Roles of Individual Differences and Innovation Properties in Multiple Forms of Innovation Implementation. Social Behavior and Personality: an International Journal, 42(7), 1201–1219. https://doi.org/10.2224/SBP.2014.42.7.1201	Innovation Properties (2), Implementation Behaviour (4)
Output/Performance			
6	Competitive Advantage	Gleißner, Werner & Helm, Roland & Kreiter, Susanne. (2013). Measurement of competitive advantages and market attractiveness for strategic controlling. Journal of management control. 24. 10.1007/s00187-013-0167-1.	International Market Entry (5), Emerging Markets Entry (4), Innovation Diffusion Speed (3)
Feedback			
7	Performance Review	To be constructed by the researcher by taking inspiration and by adaptation of various performance measure according to the need and	

		objectives of the proposed study. 1. The Performance Measurement Matrix (Malloch, Kathy, 1999) 2. The Performance Measurement Questionnaire (Dixon, 1991)
8	Process Improvement	To be constructed by the researcher with the help of comparison between the objectives of the organisation with the performance (Process Related).
9	Future Inputs	To be constructed by the researcher with the help of comparison between the objectives of the organisation with the performance (Input Related).

6.6 Statistical Tools

To test the given hypotheses and survey findings scientifically, researcher is keen to analyse the data by using appropriate statistical tools like descriptive statistics, ANOVA (analysis of variance), Z- test, correlation, regression and suitable test of significance etc. Tools of systems analysis may also be used to understand the complexity of the topic.

SECTION 7

PROPOSED CHAPTERIZATION

The Proposed Research will comprise following chapters:

➢ Chapter 1: Introduction

➢ Chapter 2: Review of Literature

➢ Chapter 3: Research Design and Methodology

➢ Chapter 4: Data Analysis, Result and Interpretation

➢ Chapter 5: Conclusion, Managerial Implications and Direction for Future Research

➢ Bibliography and References

➢ Appendix

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